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PATENTS

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
GARY L. BOWLIN ET AL.))) Art Unit: 1651
Serial No. 10/764,691	,)
) Examiner:
Filed: January 26, 2004)
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For: ELECTROPROCESSED F1	(BRIN-BASED)
MATRICES AND TISSUES)

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

The citation of information on the attached Form PTO-1449, "Information Disclosure Statement by Applicant" is made pursuant to 37 C.F.R. §§ 1.97 and 1.98. A copy of each cited item is enclosed unless stated otherwise hereinbelow.

Pursuant to 37 C.F.R. §1.98(d), inasmuch as this application relies on prior application Serial No. 09/946,158 filed September 4, 2001, which is a continuation-in-part of U.S. non-provisional patent application serial number 09/654,517 filed September 1, 2000, U.S. non-provisional patent application number 09/714,255, filed November 17, 2000, and U.S. non-provisional patent application number 09/512,081, filed February 24, 2000, which is a continuation-in-part of U.S. non-provisional patent application number 09/386,273, filed

John K. McDonald, Ph.D. - Reg. No. 42,860

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on October 13, 2004.

Application No. 10/764,691 Information Disclosure Statement Page 2

August 31, 1999 for an earlier filing date under 35 U.S.C. § 120, no copy of any patent, publication or other information previously cited by or submitted to the Office in such prior application is being provided herewith.

The citation of this information does not constitute an admission that any of the materials are available as a reference or of priority, or a waiver of any right applicant may have under applicable statutes, Rules of Practice in patent cases, or otherwise.

Respectfully submitted,

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Our Docket: 49122-0142 (297109)

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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of 13 Sheet

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Application Number	10/764,691
Filing Date	January 26, 2004
First Named Inventor	Gary L. Bowlin
Group Art Unit	1651
Examiner Name	Not Yet Assigned
Attorney Docket Number	49122-0142 (49122-297109))

		LIC Detect Description		U.S. PATENT DOCUMENT	Date of Publication of	Pages, Columns, Lines, Where
Examiner	Cite No.1	U.S. Patent Document Kin Number (i)	d Code ² (known)	Name of Patentee or Applicant of Cited Document	Cited Document MM-DD-YYYY	Relevant Passages or Relevant Figures Appear
Initials	1.	US2001/0003148	A1	Coffee	06-07-2001	
	2.	1,975,504		A. Formhals	10-02-1934	
	3.	3,892,648		Phillips et al.	07-01-1975	
	4.	4,043,331		Martin et al.	08-23-1977	
	5.	4,044,404		Martin et al.	08-30-1977	
_	6.	4,294,677		Sakagami et al.	10-13-1981	
	7.	4,552,707		How	11-12-1985	
	8.	4,657,793		Fisher	04-14-1987	
	9.	4,738,740		Pinchuk et al.	04-19-1988	
	10.	5,171,505		Lock	12-15-1992	
	11.	5,252,285		Lock	10-12-1993	
	12.	5,256,418		Kemp et al.	10-26-1993	
	13.	5,292,362		Bass et al.	03-08-1994	
	14.	5,580,859		Felgner et al.	12-03-1996	
	15.	5,655,517		Coffee	08-12-1997	
	16.	5,693,085		Buirge et al.	12-02-1997	
	17.	5,723,324		Bowlin et al.	03-03-1998	
	18.	5,813,614		Coffee	09-29-1998	
	19.	5,902,741		Purchio et al.	05-11-1999	
	20.	5,906,934		Grande et al.	05-25-1999	
	21.	5,908,777		Lee et al.	06-01-1999	
	22.	5,912,177		Turner et al.	06-15-1999	
	23.	5,915,377		Coffee	06-29-1999	
	24.	5,935,437		Whitmore	08-10-1999	
	25.	5,948,654		Tranquillo et al.	09-07-1999	
	26.	6,057,137		Tranquillo et al.	05-02-2000	
-	27.	6,068,199		Coffee	05-30-2000	
	28.	6,093,557		Pui et al.	07-25-2000	
	29.	6,096,309		Prior et al.	08-01-2000	
	30.	6,100,026		Nova et al.	08-08-2000	
	31.	6,103,255		Levene et al.	08-15-2000	
	32.	6,105,571		Coffee	08-22-2000	
	33.	6,105,877		Coffee	08-22-2000	
	34.	6,106,913		Scardino et al.	08-22-2000	
	35.	6,110,484		Sierra	08-29-2000	
	36.	6,110,590		Zarkoob et al.	08-29-2000	
	37.	6,117,296		Thomson	09-12-2000	

Examiner	Date	
Signature	Considered	

¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents.

PTO/SB/08A (08-00)
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Examiner Initials	Cite No. ¹	Number	(if known)	of Cited Document	MM-DD-YYYY	Figures Appear
unuais	38.	6,121,042		Peterson et al.	09-19-2000	
	39.	6,146,892		Ma et al.	11-14-2000	
-	40.	6,179,872	B1	Bell et al.	01-30-2001	
	41.	6,180,605	B1	Chen et al.	01-30-2001	
	42.	6,180,606	B1	Chen et al.	01-30-2001	
	43.	6,190,893	B1	Shastri et al.	02-20-2001	
	44.	6,197,575	B1	Griffith et al.	03-06-2001	
	45.	6,245,345	B1	Swanbom et al.	06-12-2001	
	46.	6,252,129	B1	Coffee	06-26-2001	
	47.	6,254,627	B1	Freidberg	07-03-2001	
	48.	6,265,333	B1	Dzenis et al.	07-24-2001	
	49.	6,306,424	B1	Vyakarnam et al.	10-23-2001	
	50.	6,308,509	B1	Scardino et al.	10-30-2001	
	51.	6,309,661	B1	Setterstrom et al.	10-30-2001	
	52.	6,318,640	B1	Coffee	11-20-2001	
	53.	6,399,362	B1	Pui et al.	06-04-2002	

	T	I
	1	
Examiner	Date	
Signature	Considered	

¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent document, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language translation is attached.

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Examiner Initials	Cite No. ¹	Office ³	Foreign Patent Docume Number4	Kind Code ⁵ (if known)	Name of Patentee or Applicant of Cited Document	Cited Document MM-DD-YYYY	Where Relevant Passages or Relevant Figures Appear	Τ ⁶
	54. RU2031661 C1		C1	Nauchno-proizvodstvennoe predprijatie "Ehkomedservis," Institut Khirurgii im.A.V.Vishnevskogo RAMN	03-27-1995		X	
	55.	EP	00/05035	A1	Imperial Chemical Industries Limited, et al.	10-31-1979		
	56.	EP	0266035	A1	Ethicon, Inc., et al.	05-04-1988		<u> </u>
	57.	GB	1377022		Avicon, Inc.	12-11-1974		
	58.	GB	2142870		Ethicon, Inc. et al.	12-30-1985		
	59.	GB	2360789	A	Mason Christopher	10-03-2001		
	60.	PCT	WO 01/74431	A2	Electrosols, Ltd.	10-11-2001		
	61.	RU	2031661			03-27-1995	See XP002046663	1
	62.	RU	2034534	C1	Kirichenko et al.	05-10-1995		
	63.	wo	00/67694	A1	Electrosols, Ltd.	11-16-2000		
	64.	WO	00/72857	A1	Bristol-Meyers Squibb Company	12-07-2000		
	65.	wo	01/26610	A1	The University of Akron	04-19-2001		
	66.	WO	01/27365	A1	The University of Akron	04-19-2001		
	67.	WO	01/51690	A1	Drexel University and The Trustees of the University of Pennsylvania	07-19-2001		
	68.	WO	91/01695	A1	Ethicon, Inc. et al.	02-21-1991		
	69.	WO	97/13849	A1	The Univ. of Akron	04-17-1997		
	70.	WO	98/03267	A	Electrosols, Inc.	01-29-1998		
•	71.	wo	98/56894	A1	Regents of the Univ. of Minn.	12-17-1998		

The PTO dld not receive the following listed Item(s) References No. 54-95; 97; 99-108, 110; 112-118; 120-145; 127-129; 131-179

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¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4For Japanese patent document, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. 6Applicant is to place a check mark here if English language translation is attached.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT				First Named Inventor	Gary L. Bowlin	
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Sheet 4 of 13		Attorney Docket Number	49122-0142 (49122-297109)			

		OTHER INFORMATION - NON PATENT LITERATURE DOCUMENTS	
Examiner Initials	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T²
	72.	"PlasmaSeal's Autologous Plasma Concentrate: Plasma Concentrate Sealant,"	
		http://www.plasmaseal.com/intro.htm., June 14, 2000, pp. 1-5.	
	73.	Abstract of RU 2034534, Kirichenko, et al. Derwent World Patents Inc., Dialog File No. 351 Accession No.	
i		10521633	ļ
	74.	Abstract of RU2031661, Nauchno-proizvodstvennoe predprijatie "Ehkomedservis," Institut Khirurgii	
		im.A.V.Vishnevskogo RAMN, Derwent, XP 00204663	
	75.	AGRAWAL, C.M. et al., "Technique to Control pH in Vicinity of Biodegrading PLA-PGA Implants", J.	
		Biomed. Mater Res., 1997, pp. 105-114, Vol. 38.	
	76.	AKINS, R.E. et al., "Neonatal Rat Heart Cells Cultured in Simulated Microgravity", In Vitro Cell. Dev. Biol.	
		- Animal, 1997, pp. 337-343, Vol. 33.	
	77.	AMSDEN et al., "An examination of factors affecting the size, distribution and release characteristics of	
		polymer microbeads made using electrostatics", Journal of Controlled Release, 1997, pp. 183-196, vol. 43.	
	78.	BAKER, T.L. et al., "Three-Dimensional Culture of Bovine Chondrocytes in Rotating-Wall Vessels", In	
		Vitro Cell. Dev. Biol. – Animal, 1997, pp. 358-365, Vol. 33.	,
	79.	BAROFFIO, A. et al., "Identification of self-renewing myoblasts in the progeny of single human muscle	
		satellite cells", Differentiation, 1996, pp. 47-57, Vol. 60.	
	80.	BECK, L., Jr. et al., "Vascular development: cellular and molecular regulation", J. FASEB, 1997, pp. 365-	
		373, Vol. 11.	
	81.	BOHR, D.F. et al., "The Cardiovascular System", Handbook of Physiology, American Physiological Society,	
		1980, pp. 1-31, Vol. II, sec. 2.	
	82.	BOLAND et al., "Electrospinning of Tissue Engineering Scaffolds," Paper Presented at American Chemical	
		Society Div. Of Polymeric Materials: Science and Engineering, Presented August 26, 2001, Chicago, IL,	
		Publication approximately July 2001.	
	83.	BOLAND et al., "Tailoring a Poly (Glycolic Acid) Tissue Engineering Scaffold by Utilizing Electrostatic	†
		Processing," Abstract of Presentation at the 4th International Symposium on Frontiers in Biomedical	
		Polymers, Williamsburg, VA, May 16, 2001.	

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Examiner		Date	
Signature	· ·	Considered	
Signature		Considered	

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		OTHER INFORMATION - NON PATENT LITERATURE DOCUMENTS	,
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	84.	BOWLIN et al., "Electric Field-Mediated Processing of Biomaterials: Toward Nanostructured Biomimetic	
		Systems," Abstract of Presentation at SPIE Annual Meeting, Newport Beach, CA, presented March 8, 2001.	
-	85.	BOWLIN et al., "Electrospinning of Biomaterials," Abstract for Presentation at the Second Conference on	
		the Development of Technology in Medicine for Virginia, at the University of Virginia, Presented	
		November 2, 1999.	
	86.	BOWLIN et al., "Electrospinning of Biomaterials," Paper for Presentation at Fiber Society Spring 2001	
		Meeting, Raleigh, NC, Presented May 23, 2001.	
	87.	BOWLIN et al., "Electrospinning of Biomaterials," Paper for Presentation at Fiber Society Spring 2001	
		Meeting, Raleigh, NC, Presented May 23, 2001.	
	88.	BOWLIN, G., "Biomimicking Small Caliber Vascular Construct Engineering," Abstract for Presentation at	
		2001 Whitaker Foundation Biomedical Engineering Conference, La Jolla, CA, Presented August 9, 2001.	
-	89.	BOWLIN, G., "The New 'Spin' on Tissue Engineering Scaffolds," Abstract for Keynote Address at the 4th	
		International Symposium on frontiers in Biomedical Polymers, Williamsburg, VA, Presented May 17, 2001.	
	90.	BUCHKO, C.J. et al., "Processing and Microstructural Characterization of Porous Biocompatible Protein	
		Polymer Thin Films", Polymer, 1999, pp. 7397-7407, Vol. 40.	
	91.	BUSH, R.L. et al., "Regulation of new blood vessel growth into ischemic skeletal muscle", Journ. of	
		Vascular Surgery, 1998, pp. 919-928, Vol. 28.	
	92.	CAVALLARO, J.F. et al., "Collagen Fabrics as Biomaterials", Biotechnology and Bioengineering, 1994, pp.	
		781-791, Vol. 43.	
	93.	CHEN, Da-Ren et al., "Electrospraying of Conducting Liquids for Monodisperse Aerosol Generation in the	
		4nm to 1.8μm Diameter Range", 1995, pp. 963-977. J. Aerosol Science, 1995, pp. 963-977, Vol. 26.	
	94.	CHEN, Da-Ren et al., "Experimental Investigation of Scaling Laws for Electrospraying: Dielectric Constant	
		Effect", Aerosol Science and Technology, 1997, pp. 367-380, Vol. 27.	
	95.	CHEN, H.H., et al., "The Use of Collagen Polymer Tube and Fibrin Clot in Peripheral Nerve Repair," Proc.	
		National Science Council (ROC), 1994, pp. 58-63, vol. 18, no.2.	
l	1		

Examiner	Date	
Signature	Considered	·

¹Unique citation designation number. ²Applicant is to place a check mark here if English language translation is attached.

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	96.	COHN, Daniel et al., "Introducing a selectively biodegradable filament would arterial prosthesis: A short-	/
		term implantation study", Journ. of Biomed. Materials Res., 1992, pp. 1185-1204, Vol. 26	/
	97.	CONNOLD, A.L. et al., "Survival of embryonic cardiac myocytes transplanted into host rat soleus muscle",	
		Journ. of Muscle Res. and Cell Motility, 1995, pp. 481-489, Vol. 16.	
	98.	DEITZEL, J.M. et al., "Generation of Polymer Nanofibers Through Electrospinning", Army Research	
		Laboratory, 1999, pp. 1-33, ARL-TR-1989.	
	99.	DOSHI, J. et al., "Electrospinning Process and Applications of Electrospun Fibers", Journ. of Electrostatics,	
		1995, pp. 151-160, Vol. 35.	
	100.	DRASLER, W. J. et al., "A Spun Elastomeric Graft for Dialysis Access", ASAIO Journal, 1993, pp. 114-	
		119, Vol. 39.	
	101.	EKOMEDSERVIS: "WPI World Patent Information Derwent, Derwent, GB', WPI World Patent Information	
		Derwent, Derwnet, GB, Vol. 44, Nr. 95, London, GB, (XP002046663)	
	102.	FERBER, D., "Lab-Grown Organs Begin to Take Shape", Science, 1999, pp. 422-424, Vol. 284.	
	103.	FREED, L.E. et al., "Microgravity Tissue Engineering", In Viro Cell. Dev. Biol Animal, 1997, pp. 381-	
		385, Vol. 33.	
	104.	FREYSSINET, J-M, et al., "Fibrinogen and fibrin in strong magnetic fields. Complementary results and	
		discussion," Biochimie, 1984, pp. 81-85, vol. 66.	
	105.	GERSHON, B. et al., "Utilization of composite laminate theory in the design of synthetic soft tissues for	
		biomedical prostheses", Biomaterials, Casali Inst. of Applied Chemistry, Grad. School of Applied Science	
		and Tech., The Hebrew Univ. of Jerusalem, Oct. 1990, pp.548-552, vol. 11, No. 8.	
	106.	GIBSON, P.W. et al., "Electrospun Fiber Mats: Transport Properties", U.S. Army Natick Research,	
		Development and Engineering Center, AICHE Journal, 1999, pp. 190, Vol. 45.	
	107.	GOJO, S. et al., "Transplantation of Genetically Marked Cardiac Muscle Cells", Journ. of Thorac.	
		Cardiovasc. Surg., 1997, pp. 10-18, Vol. 113.	
	108.	GORODETSKY, R., "Fibrin Microbeads (FMB) as biodegradable microcarriers for cultured cells and wound	
		healing," ABSTRACT, http://www.Hadassah.org.il/hadasit/patent17.htm, June 14, 2000, pp.1.	

1			
	Examiner	Date	
	Signature	Considered	

¹Unique citation designation number. ²Applicant is to place a check mark here if English language translation is attached.

		<u> </u>		Complete if Known		
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109.	GOSPODAROWICZ, D., et al., "The Extracellular Matrix and the Control of Proliferation of Vascular	/
	Endothelial and Vascular Smooth Muscle Cells," J. Supramolecular Structure, 1980, pp. 339-372, vol. 13.	/
110.	HARRIS, A.K., et al., "Fibroblast traction as a mechanism for collagen morphogenesis", Nature, 1981, pp.	
	249-251, Vol. 290.	
111.	HASEGAWA, M. et al., "Mechanical Properties of Synthethic Arterial Grafts", J. Biomechanics, 1979, pp.	,
	509-517, Vol. 12	/
112.	HERBERT, C.B., et al., "Effects of fibrin micromorphology on neurite growth from dorsal root ganglia	
	cultured in three-dimensional fibrin gels," J. Biomed Mater Res., 1998, pp. 551-559, vol. 40.	
113.	HIRAI, J. et al., "Highly Oriented, Tubular Hybrid Vascular Tissue for a Low Pressure Circulatory System",	
	ASAIO Journal, 1994, pp. M383-M388, Vol. 40.	
114.	HOPKINS, S.P. et al., "Controlled delivery of vascular endothelial growth factor promotes	
	neovascularization and maintains limb function in a rabbit model of ischemia", Journ. Vascular Surgery,	
	1998, pp. 886-895, Vol. 27, no. 5.	
115.	HOW, T.V. et al., "Engineering design of vascular prostheses", Proc Instn Mech Engrs, 1992, pp. 61-71, Vol.	
	206.	
116.	HUANG, D. et al., "Mechanisms and Dynamics of Mechanical Strengthening in Ligament-Equivalent	
	Fibroblast-Populated Collagen Matrices", Annals of Biomedical Engineering, 1993, pp. 289-305, Vol. 21.	
117.	HUANG, L. et al., "Generation of Synthetic Elastin-Mimetic Small Diameter Fibers and Fiber Networks",	
	Macromolecules, 2000, pp. 2989-2997, Vol. 33.	
118.	HUANG, L. et al., "High-Resolution Analysis of Engineered Type I Collagen Nanofibers by Electron	
	Microscopy," Scanning, 2001, pp.372-375, vol. 23.	
119.	KANDA, K., et al., "Mechanical Stress-Induced Orientation and Ultrastructural Change of Smooth Muscle	1
	Cells Cultured in Three-Dimensional Collagen Lattices", Cell Transplantation, 1994, pp. 481-492, Vol. 3.	'
120.	KATO, Y.P. et al., "Formation of continuous collagen fibres: evaluation of biocompatibility and mechanical	
	properties", Biomaterials, 1990, pp. 169-175, Vol. 11.	
	109. 110. 111. 112. 113. 114. 115. 116. 117.	Include name of the author (in CAPITAL LETTERS), tills of the article (when appropriate), tills of the hiten (book, magazine, journal, serial, sympostum, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published GOSPODAROWICZ, D., et al., "The Extracellular Matrix and the Control of Proliferation of Vascular Endothelial and Vascular Smooth Muscle Cells," J. Supramolecular Structure, 1980, pp. 339-372, vol. 13. HARRIS, A.K., et al., "Fibrobiast traction as a mechanism for collagen morphogenesis", Nature, 1981, pp. 249-251, Vol. 290. HASEGAWA, M. et al., "Mechanical Properties of Synthethic Arterial Grafts", J. Biomechanics, 1979, pp. 509-517, Vol. 12 HERBERT, C.B., et al., "Effects of fibrin micromorphology on neurite growth from dorsal root ganglia cultured in three-dimensional fibrin gels," J. Biomed Mater Res., 1998, pp. 551-559, vol. 40. HIRAI, J. et al., "Highly Oriented, Tubular Hybrid Vascular Tissue for a Low Pressure Circulatory System", ASAIO Journal, 1994, pp. M383-M388, Vol. 40. HOPKINS, S.P. et al., "Controlled delivery of vascular endothelial growth factor promotes neovascularization and maintains limb function in a rabbit model of ischemia", Journ. Vascular Surgery, 1998, pp. 886-895, Vol. 27, no. 5. HOW, T.V. et al., "Engineering design of vascular prostheses", Proc Instn Mech Engrs, 1992, pp. 61-71, Vol. 206. HUANG, D. et al., "Mechanisms and Dynamics of Mechanical Strengthening in Ligament-Equivalent Fibroblast-Populated Collagen Matrices", Annals of Biomedical Engineering, 1993, pp. 289-305, Vol. 21. HUANG, L. et al., "Generation of Synthetic Elastin-Mimetic Small Diameter Fibers and Fiber Networks", Macromolecules, 2000, pp. 2989-2997, Vol. 33. HUANG, L. et al., "High-Resolution Analysis of Engineered Type I Collagen Nanofibers by Electron Microscopy," Scanning, 2001, pp.372-375, vol. 23. HUANG, L. et al., "Formation of continuous collagen fibres: evaluation of biocompatibility and mechanical Strengthening in Transplantation,

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	Examiner Signature	Date Considered

¹Unique citation designation number. ²Applicant is to place a check mark here if English language translation is attached.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Filing Date	January 26, 2004	
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		OTHER INFORMATION - NON PATENT LITERATURE DOCUMENTS	
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	121.	KATO, Y.P. et al., "Mechanical properties of collagen fibres: a comparison of reconstituted and rat tail	
		tendon fibres" Biomaterials, 1989, pp. 38-42, Vol. 10.	
	122.	KIM, B-S et al., "Engineering smooth muscle tissue with a predefined structure", J. Biomed. Mater Res.,	
		1998, pp. 322-332, Vol. 41.	
	123.	KIM, B-S et al., "Optimizing Seeding and Culture Methods to Engineer Smooth Muscle Tissue on	
		Biodegradable Polymer Matrices", Biotechnology Bioengineering, 1998, pp. 46-54, Vol. 57.	
	124.	KOH, G.Y. et al., "Long-term survival of AT-1 cardiomyocyte grafts in syngeneic myocardium", Amer.	
		Journ. Physiol., 1993. pp. H1727-H1733, Vol. 264.	
	125.	LI, R-K et al., "In Vivo Survival and Function of Transplanted Rat Cardiomyocytes", Circulation Research,	
		1996, pp. 283-288, Vol. 78, No. 2.	
	126.	MANDANAS, R.A., "Formation of fibrin clots in cryopreserved stem cell bags during thawing procedure:	/
		lack of impact on engraftment in autologous stem cell transplantation," Bone Marrow Transplantation, 1999,	/
		pp. 303-304, vol. 23.	
	127.	MATTHEWS et al., "Electroprocessing: Fabrication of Novel Biocompatible Materials," Abstract for	
		Presentation at the 4th International Symposium on Frontiers in Biomedical Polymers, Williamsburg, VA,	
		Presented May 16, 2001.	l .
	128.	MATTHEWS et al., "Vascular Engineering Utilizing Electrospun Collagen," Abstract for Presentation at	
		Engineering Tissues, Hilton Head Island, SC, February 24, 2001.	
	129.	MOLNAR, G. et al., "Skeletal Muscle Satellite Cells Cultured in Simulated Microgravity", In Vitro Cell.	
		Dev. Biol. – Animal, 1997, pp. 386-391, Vol. 33.	
	130.	MOROZOV, V.N. et al., "Atomic force microscopy of structures produced by electrospraying polymer	1
		solutions", International Journal of Mass Spectrometry, 1998, pp. 143-159, Vol. 178.	/
	131.	MOROZOV, V.N. et al., "Electrospray Deposition as a Method to Fabricate Functionally Active Protein	
		Films", Analytical Chemistry, April 1, 1999, pp. 1415-1420, Vol. 71, No. 7.	
	132.	MURRY, C.E. et al., "Skeletal Myoblast Transplantation for Repair of Myocardial Necrosis", Journ. Clin.	
		Invest., 1996, pp. 2512-2523, Vol. 98, no. 11.	

Examiner Signature		Date Considered	

¹Unique citation designation number. ²Applicant is to place a check mark here if English language translation is attached.

Substitute for	or Form 1449/A/PTO	Application Number	10/764,691
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Examiner Initials	Cite No.1	item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	Т ²
	133.	NIKLASON, L.E. et al., "Functional Arteries Grown in Vitro", Science, 1999, pp. 489-493, Vol. 284.	
	134.	OKANO et al., "Hybrid Muscular Tissues: Preparation of Skeletal Muscle Cell-Incorporated Collagen Gels,"	
		Cell Transplantation, 1997, pp. 109-118, Vol. 6, No. 2.	
	135.	OKANO, T. et al., "Tissue Engineered Skeletal Muscle: Preparation of Highly Dense, Highly Oriented	
ı		Hybrid Muscular Tissue", Cell Transplantation, 1998, pp. 71-82, Vol. 7, No. 1.	
_	136.	OKANO, T. et al., "Tissue Engineering of Skeletal Muscle, Highly Dense, Highly Oriented Hybrid Muscular	
		Tissues Biomimicking Native Tissues", ASAIO Journal, 1997, pp. M749-M753, Vol. 43.	
-	137.	PAWLOWSKI et al., "Electrospinning a Biodegradable Vascular Tissue Engineering Scaffold," Abstract for	
ļ		Presentation at the 4th International Symposium on Frontiers in Biomedical Polymers, Williamsburg, VA,	
		Presented May 16, 2001.	
	138.	PELLEGRINI, G., et al., "The Control of Epidermal Stem Cells (Holoclones) in the Treatment of Massive	
		Full-Thickness Burns with Autologous Keratinocytes Cultured on Fibrin," Transplantation, September 27,	
		1999, pp. 868-879, vol. 68, no. 6.	
<u>.</u> .	139.	PINS, G.D. et al., "Effects of Static Axial Strain on the Tensile Properties and Failure Mechanisms of Self-	
		Assembled Collagen Fibers", J. Appl. Polym Sci., 1997, pp. 1429-1440, Vol. 63.	
	140.	PINS, G.D. et al., "Self-Assembly of Collagen Fibers Influence of Fibrillar Alignment and Decorin on	
		Mechanical Properties", Biophysical Journal, 1997, pp. 2164-2172, Vol. 73.	
	141.	RENEKER, D.H. et al., "Nanometre diameter fibres of polymer, produced by electrospinning",	
	ļ	Nanotechnology, 1996, pp. 216-223, Vol. 7.	
 	142.	RODEO, S.A., "New and Emerging Treatments for Cartilage and Meniscus Injuries," MD Vista Journal of	
		Medicine, 2000, pp. 1-4.	
	143.	ROHR, S. et al., "Patterned Growth of Neonatal Rat Heart Cells in Culture", Circulation Research, 1991, pp.	Γ
		114-130, Vol. 68.	
	144.	SAMUEL, J.L. et al., "Mechanically Induced Orientation of Adult Rat Cardiac Myocytes In Vitro", In Vitro	
		Cell. Dev. Biol., 1990, pp. 905-914, Vol. 26.	
	L		ــــــــــــــــــــــــــــــــــــــ

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Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number Complete if Known 10/764,691 **Application Number** Substitute for Form 1449/A/PTO January 26, 2004 Filing Date INFORMATION DISCLOSURE Gary L. Bowlin First Named Inventor STATEMENT BY APPLICANT 1651 Group Art Unit Not Yet Assigned **Examiner Name** (use as many sheets as necessary 49122-0142 (49122-297109) Attorney Docket Number of 13 Sheet 10

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	145.	SCHREUDER-GIBSON, H., "Electrospinning Polymer Fibers", www-	
		sscom.army.mil/warrior/97/apr/yarn.htm, U.S. Army Natick Research, Development & Engineering Center,	
		1997.	
	146.	SELIKTAR, D. et al., "Dynamic Mechanical Conditioning of Collagen-Gel Blood Vessel Constructs Induces	
		Remodeling In Vitro", Annals of Biomedical Engineering, 2000, pp. 351-362, Vol. 28.	
	147.	SHANSKY, J. et al., "A Simplified Method for Tissue Engineering Skeletal Muscle Organoids In Vitro", In	
		Vitro Cell. Dev. Biol.—Animal, 1997, pp. 659-661, Vol. 33.	
	148.	SHINOKA, T. et al., "Creation of Viable Pulmonary Artery Autografts Through Tissue Engineering", Journ.	
		Thorac. Cardiovasc. Surg., 1998, pp. 536-546, Vol. 115.	<u> </u>
	149.	SIMPSON, D.G. et al., "Modulation of Cardiac Myocyte Phenotype In Vitro by the Composition and	
		Orientation of the Extracellular Matrix", Journal of Cellular Physiology, 1994, pp. 89-105, Vol. 161.	<u> </u>
	150.	SOONPAA, M.H. et al., "Formation of Nascent Intercalated Disks Between Grafted Fetal Cardiomyocytes	
		and Host Myocardium", Science, 1994, pp. 98-101, Vol. 264.	<u> </u>
	151.	STITZEL et al., "Electrospraying and Electrospinning of Polymers for Biomedical Applications. Poly	
		(lactic-co-glycolic acid) and Poly (ethylene-co-vinylacetate)." Proc. 32nd Society for the Advancement of	
		Material and Process Engineering (SAMPE) Meeting, Boston, MA, Presented Nov. 7, 2000.	_
	152.	STITZEL, J., "Mechanical Design and Development of a Biomimicking, Biodegradable Vascular Graft,	
		Thesis Submitted at Virginia Commonwealth University, Richmond, VA, August 2000, Indexed February 9,	
	ļ	2001.	_
	153.	STITZEL, J.D., et al., "Arterial Smooth Muscle Cell Proliferation on a Novel Biomimicking, Biodegradable	
		Vascular Graft Scaffold," J. Biomaterials Applications, 2001, pp. 1-12, vol. 15.	\downarrow
	154.		
		Skeletal Muscle," Poster Presentation at Engineering Tissues, Hilton Head Island, SC, February 25, 2001.	
		(Abstracts available February 21, 2001.)	\perp
	155.	TIOLLIER, J. et al., "Fibroblast Behavior on Gels of Type I, III, and IV Human Placental Collagens",	
		Experimental Cell Research, 1990, pp. 95-104, Vol. 191.	

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	Examiner	Date Considered	
	Signature	Considered	

¹Unique citation designation number. ²Applicant is to place a check mark here if English language translation is attached.

Complete if Known **Application Number** 10/764,691 Substitute for Form 1449/A/PTO January 26, 2004 Filing Date INFORMATION DISCLOSURE Gary L. Bowlin **First Named Inventor** STATEMENT BY APPLICANT Group Art Unit 1651 Not Yet Assigned **Examiner Name** (use as many sheets as necessary 49122-0142 (49122-297109) Attorney Docket Number Sheet 11 of | 13

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Examiner Initials	Cite No.1	item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s),	T ²
	156.	VAN WACHEM, P.B. et al., "Myoblast seeding in a collagen matrix evaluated in vitro", Journ. of Biomed.	
1		Materials Res., 1996, pp. 353-360, Vol. 30.	
	157.	VANDENBURGH, H. et al., "Attenuation of Skeletal Muscle Wasting with Recombinant Human Growth	
		Hormone Secreted from a Tissue-Engineered Bioartificial Muscle", Human Gene Therapy, 1998, pp. 2555-	
		2564, Vol. 9.	-
	158.	VANDENBURGH, H., "Cell Shape and Growth Regulation in Skeletal Muscle: Exogenous Versus	
		Endogenous Factors", Journ. of Cellular Physiology, 1983, pp. 363-371, Vol. 116.	
	159.	VANDENBURGH, H.H. et al., "Mechanically Induced Alterations in Cultured Skeletal Muscle Growth", J.	
		Biomechanics, 1991, pp. 91-99, Vol. 24.	
	160.	VANDENBURGH, H.H. et al., "Skeletal muscle growth is stimulated by intermittent stretch-relaxation in	
		tissue culture", American Journal of Physiology, 1989, pp. C674-C682, Vol. 256.	
	161.	VANDENBURGH, H.H., "Mechanical forces and their second messengers in stimulating cell growth in	ŀ
		vitro", American Journal of Physiology, 1992, pp. R350-R355, Vol. 262.	
	162.	VANDENBURGH, H.H., "Mechanical stimulation of organogenic cardiomyocyte growth in vitro", Am. J.	
		Physiol., 1996, pp. C1284-C1292, Vol. 270.	
	163.	VENTURA, R., et al., "Experimental Suture of the Peripheral Nerves with 'Fibrin Glue'," Ital. J. Orthop	
		Traumatol, 1980, pp. 407-414, vol. 6 no. 3.	
-	164.	WARNER, S.B., et al., "A Fundamental Investigation of the Formation and Properties of Electrospun	
		Fibers," National Textile Center Annual Report, November 1999, pp. 1-10.	
	165.	WATANABE, E. et al., "Cardiomyocyte Transplantation in a Porcine Myocardial Infarction Model", Cell	
		Transplantation, 1998, pp. 239-246, Vol. 7, no. 3.	
	166.	WEISS, S.W. et al., "Revascularization of Skeletal Muscle Transplanted into the Hamster Cheek Pouch:	
		Electron Microscopy", Microvascular Research, 1983, pp. 65-73, Vol. 26.	
	167.		
		Regeneration Within a Silicone Chamber," Neurochemical Research, 1987, pp. 851-860, vol. 12, no. 10.	-

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	168.	WNEK, G., "Production of Microfibers by Electrospinning," Abstract for Presentation at Phillip Morris	
		Technical Center, Richmond, VA, Presented February 13, 2001.	
	169.	WNEK, G., "Thinking Small About Old Polymers at the Medicine/Engineering Interface," Abstract for	
İ		Presentation at Program in Polymer Science and Technology Seminar Series, Presented at Massachusetts	
:	i	Institute of Technology, Cambridge, MA, May 16, 2001.	
	170.	WNEK, G., "Thinking Small About Old Polymers at the Medicine/Engineering Interface," Abstract for	
	1	Presentation at Chemical Engineering Seminar, Worcester Polytechnic Institute, Worcester, MA, Presented	
		October 18, 2001.	
	171.	WNEK, G., "Electroactive Materials and Systems: Applications to Fuel Cells and Biosensors," Abstract for	
		Presentation of Materials Science and Engineering Seminar, Virginia Polytechnic Institute and State	
		University, Blacksburg, VA, Presented October 22, 1999.	
ŀ		www.eng.vt.edu/eng/materials/seminars/fall99/wnek.html.	
	172.	WNEK, G., "Electrospinning of Biomaterials," Abstract of Presentation at University of Massachusetts	
		Lowell Memorial Service and Technical Symposium Honoring Sukant K. Tripathy, Presented in Lowell,	
		MA, February 16, 2001.	
	173.	WNEK, G., "Electroactive Materials and Systems: Applications to Fuel Cells and Biosensors", Abstract for	
		Presentation at Molecular Geodesics, Inc., October 13 or 14, 1999.	İ
	174.	WNEK, G.E., Bowlin, G.L., and Simpson, D.G., "Electrospraying and Electrospinning of Polymers for	
		Tissue Engineering/Biomaterials Applications." Abstract for Presentation at Poly Millennial 2000 an	
		International Symposium by the Division of Polymer Chemistry/American Chemical Society, Hawaii,	
		Presented December 10, 2000.	
_	175.	WONG, W. H. et al., "Synthesis and Properties of Biodegradable Polymers Used as Synthetic Matrices for	
		Tissue Engineering", Synthetic Biodegradable Polymer Scaffolds, 1997, pp. 51-82, Chp. 4.	
	176.	YE, QING, et al., "Fibrin gel as a three dimensional matrix in cardiovascular tissue engineering," European	
		J. Cardio-thoracic Surgery, 2000, pp. 587-591, vol. 17.	

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¹Unique citation designation number. ²Applicant is to place a check mark here if English language translation is attached.

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	177.	YEAGER, A. et al., "New Graft Materials and Current Approaches to an Acceptable Small Diameter Vascular Graft", ASAIO Transactions, 1988, pp. 88-94, Vol. 34.	
	178.	ZENG, L., et al., "Fibrin Sealant Matrix Supports Outgrowth of Peripheral Sensory Axons," Scand J. Plast. Reconstr. Hand Surg., 1995, pp. 199-204, vol. 29.	
	179.	ZÜND, G. et al., "Tissue engineering: A new approach in cardiovascular surgery; Seeding of human fibroblasts followed by human endothelial cells on resorbable mesh," European Journal of Cardio-thoracic Surgery, 1998, pp.160-164, vol. 13.	

Examiner	Date
Signature	Considered

¹Unique citation designation number. ²Applicant is to place a check mark here if English language translation is attached.